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(56) Documents Cited

GB 2364733 A

AU 000736211 A

GB 2326436 A

AU 000723963 A

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UK CL (Edition V) E1S SJ SP SS

INT CL⁷ E04G 1/26 1/32

Other: ONLINE DATABASES: WPI, EPODOC, JAPIO

(54) Abstract Title

Builder's trestle system

(57) A plurality of builder's trestles 10 are provided, each comprising a pair of uprights 16, 18a, 18b, connected by a crossmember 28 upon which planks are laid to provide a platform. One of the uprights has an upward extension 18c above the crossmember and includes pockets 32 or tongues (34, Fig 3) which hold safety rails 40. The distance between each attachment point of the safety rail is variable so that the distance between the trestles can be varied. To achieve this, the length of safety rails may be varied by using telescoping safety rails or by fitting a number of safety rails together. A hinged barrier (50, Fig 4) may be provided at the end of the platform, and also a kickboard (not shown) which runs along the edge of the platform.

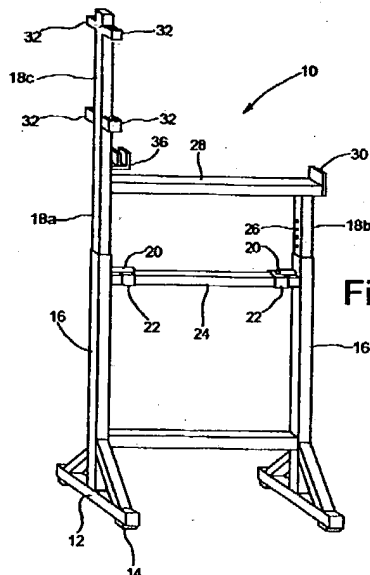


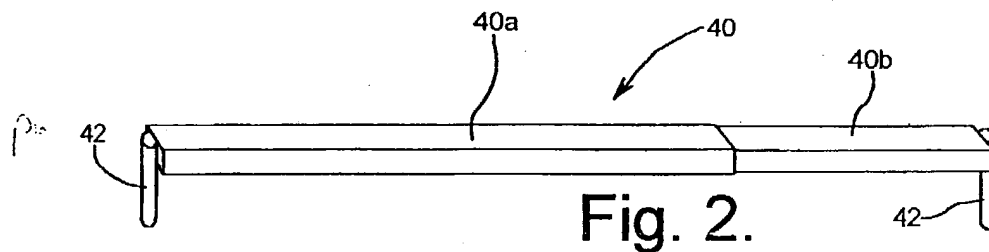
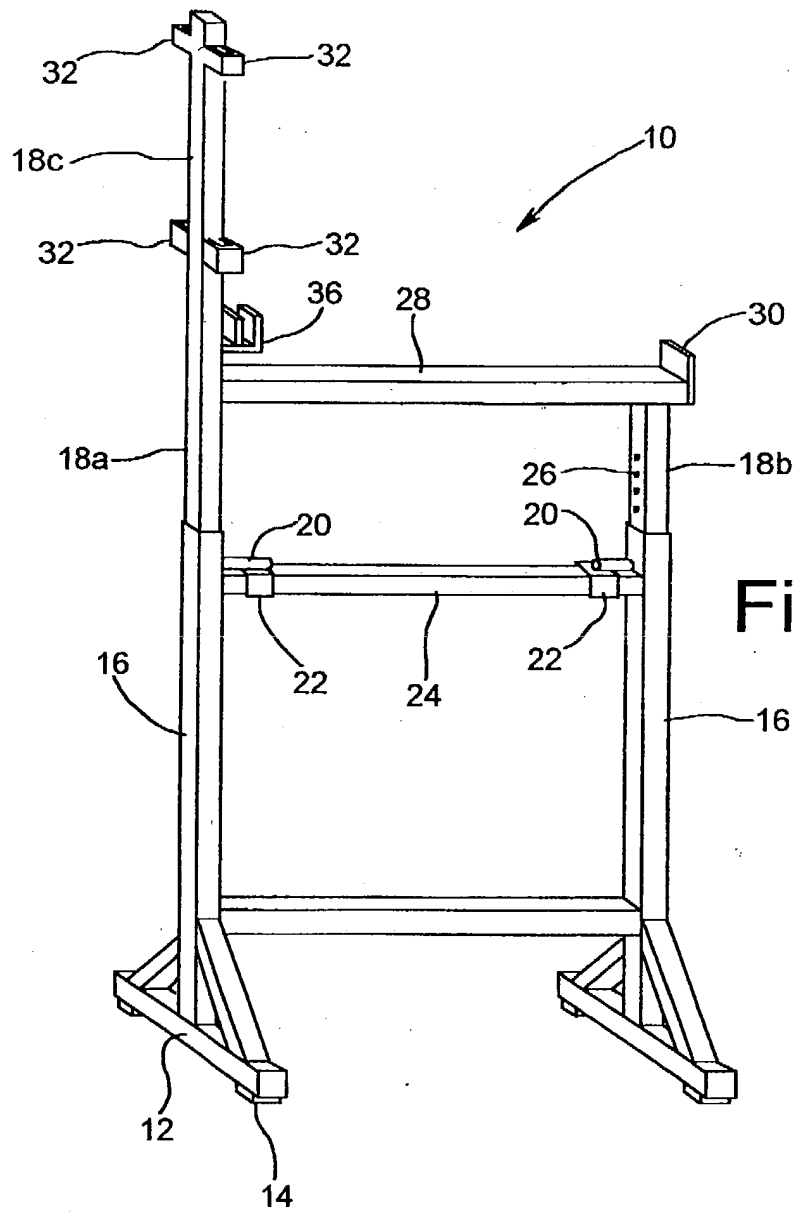
Fig. 1

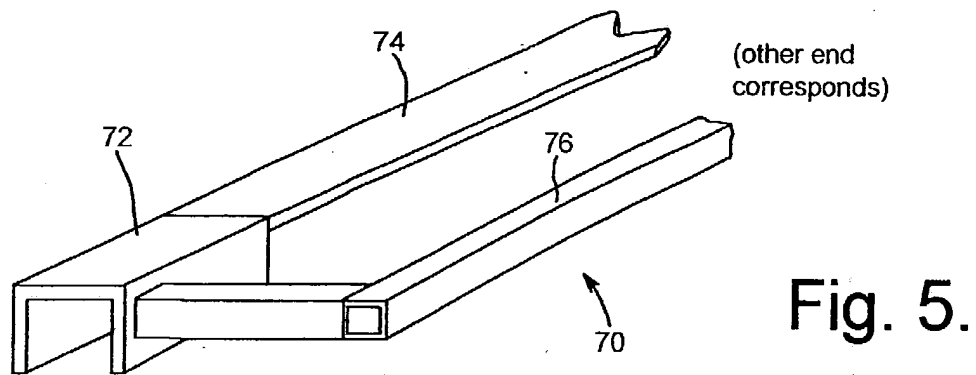
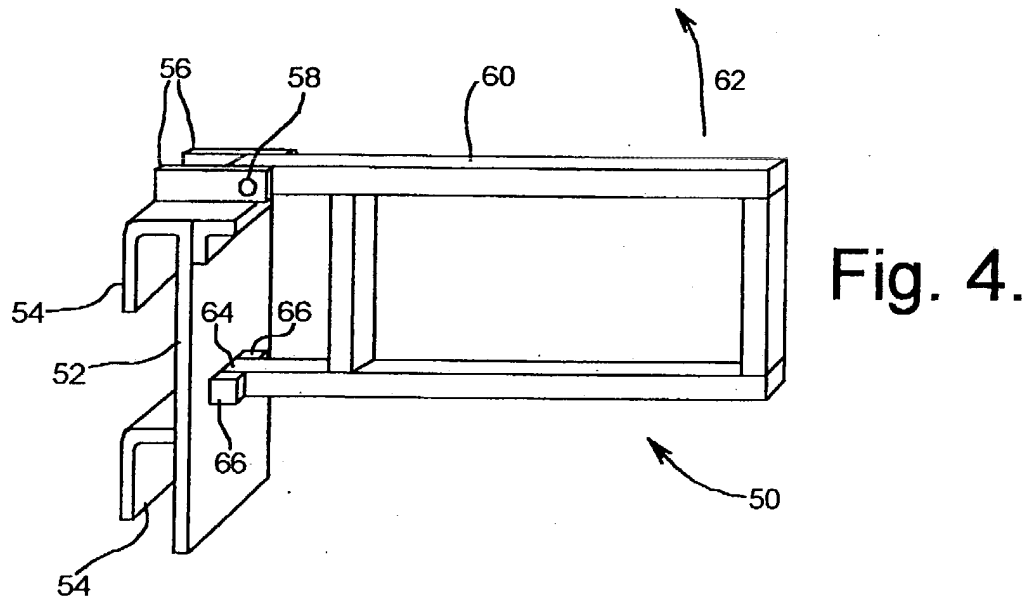
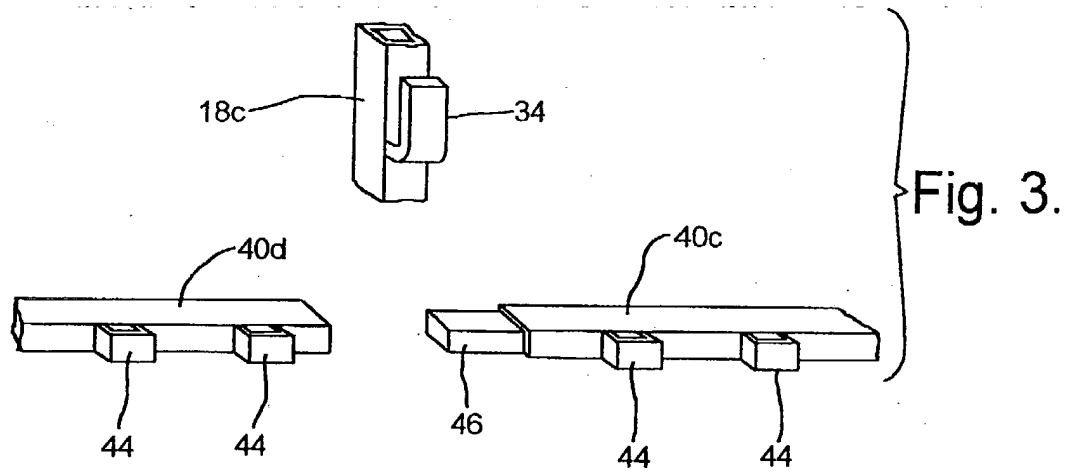


Fig. 2.

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy. The claims were filed later than the filing date but within the period prescribed by Rule 25(1) of the Patents Rules 1995. This print takes account of replacement documents submitted after the date of filing to enable the application to comply with the formal requirements of the Patents Rules 1995

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BUILDER'S TRETTLES

This invention relates to trestles ("bandstands") for supporting working platforms used on building sites and the like. Two or more such trestles are usually used together with scaffolding boards supported between them to make up the platform. The invention relates more particularly to safety features for such trestles and platforms.

GB2364733 concerns a safety rail for such trestles comprising one or more horizontal bars each of which is connected between a pair of vertically extending legs. Each safety rail leg can be secured to the upright support of a conventional builder's trestle. Alternatively, the trestles themselves may be modified so as to have one upright support which extends above the plank supporting crossbar for attachment of the safety rails. The trestles are designed to be used in groupings of four, with the safety rails being of appropriate length for the grouping to support standard scaffolding planks of 3.65 metres long.

The present invention provides a modular system comprising a plurality of builder's trestles, each trestle comprising a pair of upright supports connected by a crossmember upon which planks or boards can be supported in use to make a platform, at least one upright support of each trestle having an upward extension above the crossmember, the modular system comprising rails having points at which they can be attached between adjacent trestles to form a safety barrier, the spacing between the attachment points for a given rail being variable whereby the spacing between adjacent trestles may likewise be varied. This enhances the adaptability of the system.

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Each rail may have several attachment points spaced along its length or adjacent one or both of its ends to provide this adaptability. Adjacent rails may be overlapped to a variable extent, or secured together end-to-end, to form a continuous, composite rail. Preferably however, the rails are made variable in length, for example comprising telescopic sections.

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The upward extensions may be provided with brackets to hold a toe board. The brackets may allow overlapping of adjacent toe boards.

As a further safety feature, the system may comprise a barrier attachable to a said upward extension or the rails, so as to extend transversely to the rails in use. The barrier thus protects the otherwise open end of the platform. Advantageously, the barrier may be hinged, to allow ladder access, for example.

As a yet further safety feature, the system may comprise a bracket attached to a said crossmember, to support the otherwise overhanging ends of the planks or boards. Kickboards may be attached to the upward extension, preferably with ends of the kickboards overlapping to a variable extent.

The invention and its various preferred features and advantages is further described below with reference to illustrative embodiments shown in the drawings, in which:-

Fig. 1 shows a trestle forming part of a modular system embodying the invention;

Fig. 2 shows a telescopic rail for use in the system of Fig. 1;

Fig. 3 shows an alternative rail and corresponding detail of an upward extension;

Fig. 4 shows a safety gate; and

Fig. 5 shows a board end supporting bracket.

The trestle 10 shown in Fig. 1 is formed from relatively heavy gauge rectangular section steel tubing. It has approximately three times the weight of a conventional builder's trestle, giving extra strength and stability. To help prevent slippage, the feet 12 of the trestle 10 are provided with toe plates 14. The upright supports 16 have telescopic upper sections 18a, 18b to provide height adjustment as is conventional. The upper sections are locked to the supports 16 by pins attached to retaining collars 22 slidable on a crossbar 24. The pins 20 engage in holes 26 in the upper sections 18a, 18b. A crossmember 28 is used to support planks or scaffolding boards (not shown) between adjacent pairs of trestles 10. An end plate 30 retains the boards on the crossmember 28 at one of its ends. At its other

end, the upright upper section 18a extends above the crossmember 28 to form a post 18c for the attachment of rails 40 (Fig. 2) to form a safety barrier.

As shown in Fig. 2, the rails comprise rectangular section steel tubing with two parts 40a, 40b telescopically fitted together, to provide length adjustment. Ends of the rail 40 are provided with pins 42 which fit into corresponding pockets 32 attached to the post 18c. The part 40b of the rail is slidable within the part 40a, so that the spacing between adjacent trestles is not fixed, but can be readily adjusted. As shown, two rails are fixed between adjacent trestles, one rail above the other.

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An alternative rail construction is shown in Fig. 3. A first rail end 40c is provided with a projecting spigot of reduced cross-section, to fit snugly within a tubular second rail end 40d, so forming a continuous composite rail assembly. Two or more rails may be joined in this way to form a composite rail of indefinite length. The rails are provided at intervals with pockets 44 engageable with tongues 34 attached to the posts 18c.

An end safety barrier or gate 50 is shown in Fig. 4. A mounting bracket 52 includes a pair of hook-like open channels, vertically spaced to accommodate the rails 40. A pair of parallel plates 56 extend from the top of the bracket 52 for supporting a hinge pin 58 with its axis parallel to the rails 40. The safety gate 50 further comprises a tubular framework 60 mounted on the hinge pin so as to be rotatable upwardly in the direction of arrow 62, allowing access to the platform. In the fully downward position (illustrated) an end stop 64 of the framework 60 rests between a pair of ears 66 attached to the bracket 52.

A kickboard (not shown) may be retained on the posts 18c by brackets 36. These may have a pair of parallel slots extending in the longitudinal direction of the kickboard permitting a variable degree of board overlap and hence variable spacing between adjacent trestles.

The board end support bracket 70 shown in Fig. 5 comprises a pair of U-channels 72 (only one shown) having downwardly facing openings to fit over the trestle crossmember 28.

These channels 72 are linked by a metal strip 74 which lies along the top of the crossmember 28 in use, and by a U-shaped tubular framework 76. The framework 76 is positioned under the overhanging ends of the boards used to form the working platform. These ends are therefore fully supported. When trodden on, there is therefore no danger
5 that the board ends will pivot about the crossmember 28.

Preferably the safety barrier formed by the posts 18c and rails 40 is of sufficient height to meet relevant safety standards. Trestles having an SWL in excess of 500kg can easily be produced.

CLAIMS:

1. A modular system comprising a plurality of builder's trestles, each trestle comprising a pair of upright supports connected by a crossmember upon which planks or
5 boards can be supported in use to make a platform, at least one upright support of each trestle having an upward extension above the crossmember, the modular system comprising rails having points at which they can be attached between adjacent trestles to form a safety barrier, the spacing between the attachment points for a given rail being variable whereby the spacing between adjacent trestles may likewise be varied.
- 10 2. A system as defined in claim 1, in which each rail has several attachment points spaced along its length or adjacent one or both of its ends.
3. A system as defined in claim 2, in which adjacent rails are secured together end-
15 to-end.
4. A system as defined in claim 1, in which the rails are made variable in length.
5. A system as defined in any preceding claim, in which the upward extensions are
20 provided with brackets to hold a toe board.
6. A system as defined in any preceding claim, comprising a barrier attachable to a said upward extension or the rails, so as to extend transversely to the rails in use.
- 25 7. A system as defined in claim 6, in which the barrier is hinged.
8. A system as defined in any preceding claim, comprising a bracket attached to a said crossmember, to support the otherwise overhanging ends of the planks or boards.
- 30 9. A system as defined in any preceding claim, comprising means for attachment of kickboards to the upward extension.

10. A system as defined in claim 9, in which the attachment means allow ends of the kickboards to overlap to a variable extent.
- 5 11. A modular system comprising a plurality of builder's trestles, substantially as described with reference to or as shown in the accompanying drawings.



Application No: GB 0215382.3
Claims searched: All

Examiner: James Hull
Date of search: 16 January 2003

Patents Act 1977 : Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance	
X	1, 2, 6 & 7	AU 736211 A	PLANK MAGIC. Whole document. Handrail assemblies for trestles.
Y	1, 4 to 6, 9	GB 2364733 A	D M KELK. See Figures. Trestles with safety rail.
Y	1, 4 & 6	AU 723963 A	G JAMES EXTRUSION. Page 2, lines 23 to 26. A guardrail system with telescopic rails and an end gate.
Y	1, 5 & 9	GB 2326436 A	E J WILSON. See Figure 1. Scaffolding unit with bracket 31 for toe-board 35.

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^v:

E1S

Worldwide search of patent documents classified in the following areas of the IPC⁷:

E04G

The following online and other databases have been used in the preparation of this search report :

WPI, EPODOC, JAPIO